

REMARKS

Applicant thanks the Examiner for the thorough consideration given the present application. Claims 1-4 and 7-16 are currently being prosecuted. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth below.

Allowable Subject

It is gratefully acknowledged that the Examiner considers the subject matter of claims 1 and 2 as being allowable.

Rejection Under 35 U.S.C. § 102

Claims 3-7, 11, 12 and 16 stand rejected under 35 U.S.C. § 102 as being anticipated by Skolnik et al. (USP 5,026,431). This rejection is respectfully traversed.

The Examiner states that Skolnik et al. shows heating a workpiece in a furnace for a time and temperature sufficient to heat foreign material on a surface of the workpiece while preventing thermal migration to a core of the workpiece. The heating prevents deformation of the workpiece and heating prevents degradation of thermal treatment parameters. Applicant disagrees with the Examiner's understanding of this reference.

Skolnik et al. shows a flame cleaning process for large metallic containers for kosher foods. The heat applied and the time duration are varied as needed (column 5, lines 50-52). Temperature and time ranges are described at column 6, lines 4-9. These ranges are 600-1300°F and 2-30 seconds. The reference does not discuss the prevention of thermal migration to the core of the workpiece. The reference also does not discuss the prevention of deformation of the workpiece or the prevention of degradation of thermal treatment parameters. The Examiner has stated that the reference shows these features. However, Applicant is unable to see any such teaching. The Examiner has referred to the section which describes the time and temperatures mentioned above. Applicant believes that the Examiner's intent is to indicate that since the time and temperature range of the present invention is within the time and temperature range of the reference, that these features will also be present. Applicant disagrees.

Even though the drums of Skolnik et al. are heated to a similar time and temperature, there is no description of the need to prevent thermal migration, prevent deformation or prevent degradation of thermal treatment parameters. In fact, Applicant submits that thermal migration is likely to occur in the Skolnik et al. system. The devices which are being heated are specifically 55 gallon drums. Such drums are formed from sheet metal and are not

particularly thick. These differ from the present invention where items such as automobile parts or tools are heated. These parts are typically much thicker and have a greater thermal mass. Accordingly, getting these items to such a temperature may not cause thermal migration whereas heating a drum made of sheet metal where the flames are applied both outside and inside the drum may very well cause such thermal migration.

Further, the fact that this is not a necessary item in Skolnik et al. and would not be obvious is indicated by the fact that at the last processing station, the drum is baked at a temperature of about 425°F until the coating is cured. While the amount of time that the baking occurs is not given, baking typically will indicate that the item is fully heated. Thus, there is no need to worry about whether the flame heating includes thermal migration, deformation or degradation of thermal treatment parameters, since the baking operation would cause this even if the flame heating did not. Accordingly, Applicant submits that the reference does not discuss these three features and that the Skolnik et al. system is not interested in these features since the baking step later would not avoid these problems and further because the items which are being heated are thin enough that thermal migration, deformation and degradation of thermal treatment parameters are likely to be a problem. Further, if a steel drum is heated through to the core,

no damage is typically done since such items are not typically heat treated for strength and since it is not necessary to have a perfect shape for the item. This differs from the present invention where thicker items are being heated, many of which have been thermally treated previously to obtain certain strength parameters. For example, wheel rims for trucks must satisfy certain strength properties. If such items are heated through to the core, the metal may be deformed or the thermal treatment which has previously been applied may be removed, decreasing the strength of the item. These problems are not present in steel drums and accordingly it is not likely that Skolnik et al. even envisioned that his system would have these features. Accordingly, Applicant submits that claims 3 and 11 are not anticipated by or obvious over Skolnik et al.

Likewise, claims 4, 7-10 and 12-16 are also allowable based on their dependency from allowable claims 3 and 11.

The Examiner rejected claims 11 and 13 as being anticipated by Palmer (USP 4,592,288). This rejection is respectfully traversed.

The Examiner states that Palmer shows providing a furnace, placing the workpiece within the furnace, heating the workpiece for a time period and temperature to remove the foreign material while preventing deformation and preventing degradation of thermal treatment parameters and where thermal migration is prevented. The

Examiner refers to column 6, lines 21-25 to show these features. Applicant has reviewed column 6, lines 21-25. This section only indicates that the cleaning cycle is from 15-20 minutes after reaching the desired operating temperature. The operating temperature is set between 600 and 640°F for cast iron cylinder heads (column 5, lines 53-54). Applicant submits that this amount of heating cannot prevent thermal migration between the surface and the core. It is exactly this type of a device that the present invention is designed to replace. Heating many items for such a long period of time causes the desired thermal properties to be removed and can also cause deformation of the workpiece. Certainly, after 15 minutes of baking, heat will migrate from the surface of the workpiece to the core. Applicant disagrees with the Examiner's statement of the Palmer reference and in fact submits that exactly the opposite is shown by Palmer. If the Examiner persists in this rejection, he is requested to point out why he feels that thermal migration is prevented and why degradation of thermal treatment parameters does not occur.

Rejection Under 35 U.S.C. § 103

Claims 13-15 stand rejected under 35 U.S.C. § 103 as being obvious over Skolnik. Likewise, claims 14 and 15 stand rejected

under 35 U.S.C. § 103 as being obvious over Palmer. These rejections are respectfully traversed.

The Examiner feels that it would have been obvious to use these methods with specific automobile parts. However, even if this is true, Applicant submits that these claims are allowable based upon their dependence from allowable claim 11.

Claim 8 is rejected under 35 U.S.C. § 103 as being obvious over Skolnik et al. in view of Jamaluddin (USP 6,135,765). Claim 9 stands rejected under 35 U.S.C. § 103 as being obvious over Skolnik et al. in view of Bickell et al. (USP 6,055,915). Claim 10 stands rejected under 35 U.S.C. § 103 as being obvious over Skolnik et al. in view of Domnitch (USP 4,688,494). These rejections are respectfully traversed.

The Examiner cites the secondary references to show the features of having a controlled cool down rate, having a programmed microprocessor for controlling time and temperature and having a mobile furnace. Applicant submits that even if these references do show these features, these claims are allowable based on their dependence from allowable claim 3.

Conclusion

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied upon by the Examiner,

either alone or in combination. In view of this, reconsideration of the rejections and allowance of all of the claims is respectfully requested.

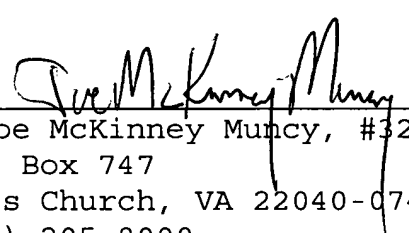
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert F. Gnuse (Reg. No. 27,295) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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